10.1: Introduction to conducting censuses and mapping

In nearly all intervention trials, it will be necessary to compile a register of individuals included in the trial. The register should include sufficient identification information on each person to enable participants to be followed over time, with minimal possibility of confusing one individual with another. To assemble a suitable group for inclusion in a trial, it may be necessary to enumerate (i.e. count and identify) all the members of a geographically, or otherwise, defined population or a specific subgroup of it (for example, children aged less than 5 years). Such a population enumeration (census) may serve as a sampling frame to select a representative subset of the population or may be used to assess how representative the study group is of the whole population, if some individuals refuse to participate, or are not included, in the trial for other reasons.

Identification and follow-up of the members of a population and selecting a sample of them will usually be easier if a map is drawn of the area, marking individual homes and prominent topographical features. Mapping may also be valuable in planning the logistics of fieldwork and in studying the epidemiology of a disease, for example, to determine if cases of a disease tend to occur near water courses or in some other non-random fashion geographically.

Mapping and enumeration of a population are not always necessary, but often such information collected at the start of a trial is vital to its successful conduct. For example, in a leprosy vaccine trial in Venezuela, the trial group was defined as the household and other close contacts of prevalent leprosy cases (Gupte, 1999). The prevalent cases were distributed over a very wide area, in which most of the population were not included in the trial. It was necessary to enumerate the household and other contacts of prevalent cases, but it would have been inappropriate to enumerate the entire population or to map the locations of all households, other than was necessary to be able to find the contacts during the course of the trial. Conversely, in a malaria chemoprophylaxis study in The Gambia, an attempt was made to include all children in a defined area, and detailed mapping and enumeration were undertaken to facilitate the conduct of the study (Jukes et al., 2006).
In this chapter, guidelines are given on mapping and on ways of compiling a population register to facilitate long-term follow-up of the participants in a trial. Resources, including tools and advice on doing this in LMICs, are available from INDEPTH (<http://www.indepth-network.org>). 